

**EXAMPLE 32****N<sup>6</sup>-Benzoyl-5'-O-DMT-3'-O-(butylphthalimido)-adenosine**

[0169] The title compound is prepared from 3'-O-(butyl-phthalimide)-N<sup>6</sup>-benzoyladenosine as per Example 22.

**EXAMPLE 33****N<sup>6</sup>-Benzoyl-5'-O-DMT-3'-O-(butylphthalimido)-Adenosine-2'-O-(2-cyanoethyl-N,N-diisopropyl) phosphoramidite**

[0170] The title compound is prepared from 3'-O-(butylphthalimide)-5'-O-DMT-N<sup>6</sup>-benzoyladenosine as per Example 24.

**EXAMPLE 34****3'-O-(Pentylphthalimido)-adenosine**

[0171] The title compound is prepared as per Example 21, using N-(5-bromopentyl)phthalimide. The crude material from the extraction is chromatographed on silica gel using CHCl<sub>3</sub>/MeOH (95/5) to give a mixture of the 2' and 3' isomers. The 2' isomer is recrystallized from EtOH/MeOH 8/2. The mother liquor is rechromatographed on silica gel to afford the 3' isomer.

2'-O-(Pentylphthalimido)adenosine: M.P. 159-160 °C. Anal. Calcd. for C<sub>23</sub>H<sub>24</sub>N<sub>6</sub>O<sub>5</sub>: C, 57.26; H, 5.43; N, 17.42. Found: C, 57.03; H, 5.46; N, 17.33. 3'-O-(Pentylphthalimido)adenosine: <sup>1</sup>H NMR (DMSO-d<sub>6</sub>) δ 5.87 (d, 1H, H-1').

**EXAMPLE 35****N<sup>6</sup>-Benzoyl-3'-O-(pentylphthalimido)-adenosine**

[0172] Benzoylation of 3'-O-(pentylphthalimido)adenosine is achieved as per the procedure of Example 22 to give the title compound.

**EXAMPLE 36****N<sup>6</sup>-Benzoyl-5'-O-DMT-3'-O-(pentylphthalimido)-adenosine**

[0173] The title compound is prepared from 3'-O-(pentyl-phthalimide)-N<sup>6</sup>-benzoyladenosine as per the procedure of Example 23. Chromatography on silica gel (ethylacetate, hexane, triethylamine), gives the title compound.

**EXAMPLE 37****N<sup>6</sup>-Benzoyl-5'-O-DMT-3'-O-(pentylphthalimido)-adenosine-2'-O-(2-cyanoethyl-N,N-diisopropyl) phosphoramidite**

[0174] The title compound is prepared from 3'-O-(pentyl-phthalimide)-5'-O-(DMT)-N<sup>6</sup>-benzoyladenosine as per the procedure of Example 24 to give the title compound.

**EXAMPLE 38****3'-O-(Propylphthalimido)uridine**

[0175] A solution of uridine-tin complex (48.2 g, 115 mmol) in dry DMF (150 ml) and N-(3-

bromopropyl)phthalimide (46 g, 172 mmol) was heated at 130 °C for 6 hrs. The crude product was chromatographed directly on silica gel  $\text{CHCl}_3/\text{MeOH}$  95/5. The isomer ratio of the purified mixture was 2'/3' 81/19. The 2' isomer was recovered by crystallization from MeOH. The filtrate was rechromatographed on silica gel using  $\text{CHCl}_3/\text{CHCl}_3/\text{MeOH}$  (95/5) gave the 3' isomer as a foam.

2'-O-(Propylphthalimide)uridine: Analytical sample recrystallized from MeOH, m.p. 165.5-166.5°C,  $^1\text{H}$  NMR (200 MHz,  $\text{DMSO}-d_6$ )  $\delta$  1.87 (m, 2H,  $\text{CH}_2$ ), 3.49-3.65 (m, 4H,  $\text{C}_2\text{H}$ ), 3.80-3.90 (m, 2H,  $\text{C}_3\text{H}_1\text{C}_4\text{H}$ ), 4.09 (m, 1H,  $\text{C}_2\text{H}$ ), 5.07 (d, 1H,  $\text{C}_3\text{OH}$ ), 5.16 (m, 1H,  $\text{C}_5\text{OH}$ ), 5.64 (d, 1H,  $\text{CH=}$ ), 7.84 (d, 1H,  $\text{C}_1\text{H}$ ), 7.92 (bs, 4H, Ar), 7.95 (d, 1H,  $\text{CH=}$ ) and 11.33 (s, 1H, ArNH). Anal.  $\text{C}_{20}\text{H}_{21}\text{N}_3\text{H}_8$ , Calcd. C, 55.69; H, 4.91; N, 9.74. Found, C, 55.75; H, 5.12; N, 10.01. 3'-O-(Propylphthalimide)uridine:  $^1\text{H}$  NMR ( $\text{DMSO}-d_6$ )  $\delta$  5.74 (d, 1H, H-1').

#### EXAMPLE 39

##### 3'-O-(Aminopropyl)-uridine

[0176] The title compound is prepared as per the procedure of Example 25.

#### EXAMPLE 40

##### 3'-O-[3-(N-trifluoroacetamido)propyl]-uridine

[0177] 3'-O-(Propylamino)uridine is treated as per the procedure of Example 26 to give the title compound.